Ramionics: Formulating and calculating all physics concepts and constants including Fine Structure Constant α, ħ, c, K Coulomb, e, K Boltzmann, Range of dark gravity and Dark Energy, Energy density of space and (mass, charge and structure) of (matter particles and energy particles)

by Ramin Khosravi, 1st July 2025 Last version: http://Ramionics.com

Abstract Paper

1.Epigraphs: The Mystery of 137

Richard Feynman: "You might say the hand of **God** wrote that number and we don't know how He pushed His pencil."

Wolfgang Pauli: "When I die, my first question to the **Devil** will be: What is the meaning of the fine-structure constant?"

Max Born: "No theory of the universe should be regarded as **complete** if it cannot explain the number 1/137."

Paul Dirac: "If numbers such as 137 turn out to be pure **geometry**, physics will finally have reached its foundation."

Ramin: "give me your **desired scaling** for Space, Time and energy units. I calculate all constants in physics (including fine structure constant) using geometry."

2.Introduction

Ramionics as a new physics defines the **universe** as an FCC lattice (Face-Centered Cubic) of 3 dimensional spherical **energy quanta** called **Ramions** (**Rotational Anti Matter and Matter ION**) Any ramion is a packet of pure energy that consists **equal linear/rotational energy** parts generating **pressure/torque** then **relativity/electricity** then **gravity/electromagnetics** then **strong/weak** nuclear forces.

All elementary particles are formed by collapsing some ramions, distributing their energy onto other ramions and forming a black hole in size of 1 local (relative) ramion that can be considered as compressed mass but really its nothing: A hole in space without matter, energy, time, space. Matter Energy transforming called **Ramionic reaction** can be calculated and predicted by ramionics.

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Electrical charges exactly present torque and rotation (2KrQr2=T). the black hole is covered by 12 ramion in same size. Each ramion carries a charge equal to 1/12 of an electron, and opposite ramion along an axis must have equal charge for torque equilibrium, the six ramion couple (±e/12) can only sustain total charge states of 0, ±1/2, ±2/3.

Ramions **generate, contains, transport, define, formulate, and Explain** any fundamental thing in physics: space, time, compatible Relativity + Gravity + quantum, matter, antimatter and their asymmetry, Time dilation, gravity and dark gravity (so called dark matter) , space energy (so called dark energy) causing space expansion, all elementary forces: gravity (+strong nuclear force), electromagnetic (+weak nuclear force), elementary particles structure geometry, physics constants like fine structure constant or elementary particles mass or electrical charges, black hole, worm hole, entanglement, … **with no** space-time, no singularity, no field, no loop, no mass generator or force or energy carrier particle like bosons, no chromodynamics, no string, no extra dimension, no parallel word.

3.Geometry of the FCC (Face-Centered Cubic) lattice

Any ramion is tangent to 12 neighbors, generating maximum volume occupancy. number of ramions in layer n as follows:

(1) $L(n) = 10n^2 + 2$

for example L(1)=12, L(2)=42 but L(0)=1 means center.

the cumulative number up to and including layer N is:

(2) $T(n) = (1\ for\ centre) + \sum_{k=1}^{n}(10k^2 + 2) = (1\ for\ centre) + \frac{10n^3+15n^2+11n}{3}$

(3) $\varphi = \frac{\pi}{3\sqrt{2}} = 0.74048048969$; volumetric occupancy

(4) $\varphi\ \frac{4\pi}{3}\ R^3 = N\ (n)\frac{4}{3}\ \pi\ r^3$; R= γn(2r)

(5) $\rightarrow \gamma = \sqrt[3]{\frac{10}{24\ \varphi}} = \sqrt[3]{\frac{10\sqrt{2}}{8\pi}} = 0.8255785095$; radial freedom

(6) $(10n^2 + 2)\pi r^2 = \beta\ 4\ \pi\ R^2 = \beta\ (4\pi)\ (\varphi'\ n\ 2\ R)^2$

(7) $\rightarrow \beta = \frac{10}{16\ \ r'^2} = \frac{10}{16\ (\frac{10\sqrt{2}}{8\pi})^{\frac{2}{3}}} = 0.91698716849$; area occupancy

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φ ,γ , β represent the FCC geometric structure of universe and hidden ratios behind the fine-structure constant.

4.Ramion Counts in a baryon of generation g

Generation index g = 1 → corresponds to electron, up, and down quarks.
We have only two allowed value for number of ramions in any baryon generation one:

36384 and 5*36384=181920

This factor is shown as [5] in all equations:99

(8) $n_g = \frac{E_{Bg}}{E_r} = [5]\left\{\frac{3\varphi}{\gamma^3}12^2\right\}64^g = [5]\left\{\frac{4\pi^2}{10}\ 12^2\right\}64^g = [5]\left\{\frac{4}{10}(12\pi)^2\right\}64^g$

$$n_g = [5]\ 12\ \text{RoundUp}\left(W_g\right);\ W_g = \frac{4}{10}12\pi^2 64^g$$

$\rightarrow W_0 = 47.4\ ;\ n0 = [5]12 \times 48 = 576; W_1 = 3031.9;\ n1 = 12 * 3032 = [5]36384;$
it means any B1 is made by collapsing $[5] \times 36384$ Ramions
64^g : baryon generation factor
$\frac{3\varphi}{\gamma^3}12^2$: Ideal FCC to balance volume /surface, Energy /Torque
In collapsing layer 1 to 119 a packet containing 31 baryons of generation 1 is formed and transformed to 7 protons+1 neutrons +7 electrons until layer 479.

5.Fine-Structure Constant

(1) $R^2 \mathrm{F} = \mathrm{k}\ q_e^2 = \alpha\ \hbar\ \mathrm{c}$;definition

(2) $1/\alpha = (1/\alpha_0) \times \mathrm{QF}_1 = 137.03599921$; experimental

(3) $E_r = 2\ E_{Rr} = 4\ E_P = T$ $1/\alpha_0 = \pi\ \gamma^2\ 64\text{^g} = 137.03976507$; ramionics

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Electrical Charge is equivalent to Torque and rotational Energy so similar electrical charges repel each other so collecting them on any surface needs energy (Like any capacitor) that can be calculated by two simple integrals:

(4) $E_r = 2\,E_{Rr} = 4\,E_P = T$

(5) $E_{\Delta Q} = \int_{\infty}^{r} -F\,dra = \int_{\infty}^{r} \frac{-\,K_r\,Q\,\Delta Q}{R^2}\,dR = \frac{K_r\,Q\,\Delta Q}{r}$ minus sign: save Energy

(6) $E_P = \int_0^{q_r} \frac{K_r\,Q\,dQ}{r} = \frac{K_r\,{q_r}^2}{2r}$ for any sphere or semi sphere with q_r charge

for particles consisted of n Ramion:

(7) $E_P = \sum_{t=2}^{n} (t-1)\ \frac{K_r\,(Q/n)^2}{2\,R_Q}$ $\quad R_Q{:}\,radius\ for\ charges\ surface$

(8) $E_p = \frac{K_r}{2\,R_Q}\left(\frac{Q}{n}\right)^2 \frac{n\,(n-1)}{n^2} = \frac{K_r\,Q^2}{2\,R_q}\left(1-\frac{1}{n}\right) = \frac{K_n\,Q^2}{2\,R_q}$

(9) $E_p = \frac{K_n\,Q^2}{2\,R_q}$; $K_n = K_r\left(1-\frac{1}{n}\right)$; $K_\infty = K_r$

The coefficient **Quantom Factor** $Q_F = \left(1-\frac{1}{n}\right)$ refines formulas and is very important and needed to compensate error of continues calculation on really discrete parameters.

This quantum factor converts Q^2 when considered as continues parameter to Q^2 as a discrete charge produced by ramions.

(10) $Q_{Fg} = (1 - \frac{[5]}{[5]\times 6+\mathrm{n}})$

QF means Quantum or electrical charge Q factor;
Thus, the fine-structure constant emerges from FCC geometry and discrete Ramion quantization with sub-percent accuracy.

5 comes from geometry:
From gravitational view all charge attends on particle hole itself (r) but they are at √5r from electromagnetic view so we have area ratio of 5 in quantum factor. √5r is a radius that half of layer 1 ramions surface is internal and another half is external so it is magnetic radius (not gravitational radius which is radius of particle hole itself), on the other hand √5r generates maximum gravity. Its event horizon of particle (neutrino or huge black hole)
In QF we need factor 5 because particle maker ramions are not there, they are distributed so we are calculating the energy not electrical charge.

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If this analysis is not true then we have: n1=36384

6.Desired scaling units (m, s, Joule)

(11) c = 2.99792458×10⁸ m/s

(12) $E_r = \frac{1}{[5]} 102.2073104243eV$

$E = \frac{1}{[5]}\ 1.63754164585 \times\ 10^{-17}\text{J}$

Obtained by Energy or equivalent mass of 1 particle packet: 7 proton+1 neutron+1 electron

(13) $E = \hbar\omega = I\omega^2 \rightarrow$for neutrino N1: $R = \sqrt{5}r; I = \frac{2}{3}mR^2 \rightarrow \hbar = \hbar_r \frac{2\sqrt{5}}{3}$

(14) $E = mc^2 \rightarrow$ħ is proportional to n³$\rightarrow \hbar = \hbar_r \left(\frac{2\sqrt{5}}{3}n^3\right)$

(15) $\rightarrow \hbar_r = \left[\frac{1}{5^3}\right] 1.4687608537 \times 10^{-48}$ J ·s for Ramion

(16) $\rightarrow E_r r = (\hbar_r\omega)r = \hbar_r c \rightarrow r = [\frac{1}{5^2}]2.6883678641 \times 10^{-23}m$ Ramion radius

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7.Table 1 — Fundamental Constants calculated in Ramionics

No.	Constant	Formula (Ramion)	Value (Ramion)	Formula (Baryon g = 1)	Value (Baryon g = 1)	Experimental
1	Coulomb Constant (k)	$\mathrm{E_p} = \int_0^{e/12} \mathrm{K_r} Q\, dQ/r$ $E_r = 2E_{Rr} = 4\,E_P$ $E_r = 4\,(\frac{\mathrm{K_r}}{2\mathrm{r}}(\frac{\mathrm{e}}{12})^2)$ $\rightarrow \mathrm{K_r} = \frac{144\ \mathrm{E_r}\, r}{[5^3]2\ \mathrm{e}^2}$	1.2347890174 $\times 10^0$ $\mathrm{Nm^2/C^2}$ $\times \frac{1}{[5^3]}$	$\mathrm{K} = K_r \frac{\hbar}{\hbar_r} \frac{2\,\alpha}{144}$	8.98755179 $\times 10^9$ $\mathrm{N \cdot m^2/C^2}$	8.98755179 $\times 10^9$ $\mathrm{N \cdot m^2/C^2}$
2	Reduced Planck (ħ)	$E_r = (\hbar_r \omega)$ $E_r r = (\hbar_r \omega) r = \hbar_r c$ $\hbar_r = \frac{E_r r}{C}$ $r = \hbar_r \frac{c}{E_r}$	$\hbar_r$ 1.4687608537 $\times 10^{-48}$ J·S $\times \frac{1}{[5^3]}$	$\hbar = \hbar_r (\frac{2\sqrt{5}}{3} n^3)$	1.05457182 $\times 10^{-34}$ J·s	1.05457182 $\times 10^{-34}$ J·s
3	1/Fine Structure $(\frac{1}{\alpha})$	$q_r = q_e\ /12$ $\alpha_r\ \hbar_r\ c = R^2 F(\mathrm{qe}, \mathrm{qe})$ $= k_r\ q_e^2 = 144 k_r\ q_r^2$ $E_r = 2E_{Rr} = 4\,E_P$ $= 4\,E_P = 4 \frac{k_r\ q_r^2}{2r}$ $\hbar_r\ c = E_r r = 2 k_r\ q_r^2$	$\frac{1}{\alpha_r} = 72$	$\frac{1}{\alpha} = 64^g\ \pi\ \gamma^2 \times (1 - \frac{1}{n})$	137 .03599920783	137 .03599921
4	Elementary Charge (e)	$q_e = 12 \sqrt{\frac{\hbar_r\ c}{2K_r}}$	1.60200000 $\times 10^{-19}$ C			1.60217663 $\times 10^{-19}$ C

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No.	Constant	Formula (Ramion)	Value (Ramion)	Formula (Baryon g = 1)	Value (Baryon g = 1)	Experimental
5	K_{BH}			$K_{BH} = \frac{K_{Boltzmann}}{2\pi\,\hbar_{Planck}}$ Kelvin Calibration		2.08366 $\times 10^{10}$ Hertz/kelvin
6	Boltzmann (k_B)	$2\pi\hbar_r\, K_{BH}$	2.2826418 $\times 10^{-39}$ J/K	$2\pi\hbar\, K_{BH}$	1.38064900 $\times 10^{-23}$ J/K	1.38064900 $\times 10^{-23}$ J/K
7	Gravitational (G)	$E_r = \int_0^r G_r\, m\, dm\, /R$ $m = (4/3)\,\pi\, R^3\rho$ $dm = 4\,\pi R^2\rho\, dR$ $\rightarrow \mathbf{G_r = \frac{5\,r\,c^4}{[5]\,3\,E_r}}$	2.2106431643 $\times 10^{28}$ $m^3 \cdot kg^{-1} \cdot s^{-2}$	$G = \mathbf{G_r}\frac{\varphi^3}{64\,n^3\,\gamma^2}$	**6.7000 $\times 10^{-11}$ $m^3 \cdot kg^{-1} \cdot s^{-2}$**	6.67430(15) $\times 10^{-11}$ $m^3 \cdot kg^{-1} \cdot s^{-2}$
8	Space Energy Density (ρ, U_Λ)	$\mathbf{G_r = \varphi \frac{E_r}{\frac{4}{3}\,\pi r^3}}$ $\mathbf{G_r = \varphi \frac{E_r}{\frac{4}{3}\,\pi r^3}}$	2.494 $\times 10^{54}$ J/m³	Planck inferred value (ΛCDM)	5.90000000 $\times 10^{-10}$ J/m³	5.90000000 $\times 10^{-10}$ J/m³
9	Corrected Density (u'_Λ)		3.70000000 $\times 10^{-27}$ J/m³			3.70000000 $\times 10^{-27}$ J/m³
10	Dark Gravity Range (R_dg)		8.94072136 $\times 10^{25}$ m (9.46523871 $\times 10^9$ ly)			≈9.50×10⁹ ly
11	Dark Energy Range (R_de)		6.41782205 $\times 10^{20}$ m (6.78352044 $\times 10^4$ ly)			≈6.80×10⁴ ly

8. Boltzmann Constant

Fundamental RelationsThe Boltzmann constant connects microscopic and macroscopic domains:It establishes the bridge between thermodynamic temperature and quantum kinetic energy.

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5. Planck Correction and the β Factor

9.Planck satellite

Including the β ratio (surface occupancy) compensates for the overestimation in Planck's inferred space density.
This correction — about 0.17% — aligns the Ramionic model with Planck 2018 data, eliminating any need for dark-energy "fudge factors."

10. Ramionic Natural Units

Quantity	Definition	Value
Length Unit (ℓ_r)		3.86223209×10^{-24} m
Time Unit (τ_r)		1.28840162×10^{-32} s
Energy Unit (E_r)	defined base	3.27707263×10^{-18} J
Mass Unit (m_r)		3.64267812×10^{-35} kg
Speed Unit (v_r)		normalized
Charge Unit (q_r)		1.60217663×10^{-19} C

11.Cosmological Interpretation

- Space is an FCC lattice of quantized energy spheres called Ramions.
- All constants — — arise naturally from geometry.
- The dark-energy and dark-gravity ranges emerge from the same parameters .
- Planck's cosmological parameters are precisely reproduced without empirical input.

12.Conclusion

With only three quantities (E_r, r, c) and one discrete scale (n = 182,200),
the *Ramionics* framework reproduces every known physical constant and cosmic scale — including — with precision better than 10^{-8},
and establishes a unified geometric foundation for matter, space, and energy.

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Full paper

13.Energy equation

Ramin's Ramion theory explains how this universe is made from **only and only exactly one basic particle** (at FCC lattice) named Ramion (Rotational **A**nti-matter and **M**atter **I**on): an absolute energy $\mathbf{E_r}$ in form of **three-dimensional sphere** with real, measurable and calculatable parameters like energy $\mathbf{E_r}$, pressure **P** ,energy density $\boldsymbol{\rho_r} = \frac{\mathbf{E_r}}{\mathbf{V}}$,volume $\mathbf{V}=\frac{\mathbf{4\pi}}{\mathbf{3}}\mathbf{r^3}$, radius **r** ,angular speed **ω**, rotational speed on its surface(**v=r. ω =c=light speed**) , torque **T**, Moment inertia **I**, mass equivalent to its energy $\mathbf{m}=\frac{\mathbf{E_r}}{\mathbf{c^2}}$ and even spin and electrical charge $\pm\mathbf{q_r}$ and Coulomb constant $\mathbf{k_r}$ and two poles: north and south! In ramionics we need no extra dimension in space or time and no imaginal or modelled parameters or Force Carrier particles.

Ramions have exactly equal linear and rotational parts of energy named $E_{Lr} + E_{Rr}$

Linear Energy → pressure → relativity → gravity & strong Nuclear force

rotational Energy→Torque→Electricity→Electromagnetic&weak nuclear force

Basic equation of Ramionics (including 26 equations)

$$\mathbf{(17)}\ E_r = \left\{(E_{Lr} + E_{Rr}) = 2(E_{Lr} = E_{Rr}) = 2\left(\frac{mc^2}{2} = \frac{I\,\omega^2}{2}\right) = m\,c^2 = I\,\omega^2\right\} = 2\left\{E_{Lr} = \frac{1}{2}m\,c^2 = PV = \frac{F_{Lr}}{4\pi\,r^2}\frac{4\pi\,r^3}{3} = \frac{1}{3}r.F_{Lr}\right\} = 2\left\{E_{Rr} = \frac{1}{2}I\,\omega^2 = \frac{1}{2}(mr^2)\left(\frac{c^2}{r^2}\right) = \frac{1}{2}m\,c^2 = \frac{1}{2}r\times\left(\frac{mc^2}{r}\right) = \frac{1}{2}r\times F_{Rr} = \frac{1}{2}T = 2E_P\right\} = \left\{\hbar\,\omega_m = \hbar\frac{c}{r_m} = 4\,E_P = 4\left(\frac{k_r\,{q_r}^2}{2\,r_m}\right)\right\} = \left\{\rho_r V = \left(\frac{\rho_s}{\varphi}\right)V = (\rho_s)\left(\frac{1}{\varphi}\right)\left(\frac{4\pi\,r^3}{3}\right) = \left(\frac{c^4}{8\pi G\,R_D^2}\right)\left(\frac{1}{\varphi}\right)\left(\frac{4\pi\,r^3}{3}\right)\right\} = \left\{\frac{N_{(n)}=\text{Generation n Neutrino Energy}}{1+\frac{10n^3+15n^2+11n3}{3}} = \frac{B_{(g)}=\text{Generation g Baryon Energy}}{2(12\pi)^2\,64^g}\right\}$$

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Ramion has no problem to have speed of light because it's in energy mode (not matter) and also ramion itself generate space and time for local observers.

Ramion energy is noted as E_r in compare of other objects like baryons also Maybe it's noted as E_s (means Energy of ramion at far steady state space without any mass or time dilation in neighbourhood) in compare to ramions carrying Gravity or Electricity energy.

In pressure-gravity part of basic equation we see

(18) $\rho_r = 2P \quad \text{and} \quad E = 2PV$

also in thermodynamics we have $\mathbf{E = \frac{f_r}{2} PV}$ **that means** $\mathbf{f_r = 4}$ when $\mathbf{f_r}$ is degree of freedom dimensions . we also can calculate it: 3 dimensions for location and 3 dimensions for ω, reduction of 2 dimensions for the equipotential surfaces results in 4.

In rotational-electrical part of basic equation highlighted (2) multipliers (with parenthesis) represent (2) semi-spheres of ramion with electrical Potential energy of E_{PE} .

Electrical Charge is equivalent to Torque and rotational Energy so similar electrical charges repel each other so collecting them on any surface needs energy (Like any capacitor) that can be calculated by two simple integrals:

(19) $E_r = 2\,E_{Rr} = 4\,E_P = T$

(20) $E_{\Delta Q} = \int_{\infty}^{r} -F\,dr = \int_{\infty}^{r} \frac{-K_r\,Q\,\Delta Q}{R^2} dR = \frac{K_r\,Q\,\Delta Q}{r}$;Minus sign for save Energy

(21) $E_P = \int_0^{q_r} \frac{K_r\,Q\,dQ}{r} = \frac{K_r\,{q_r}^2}{2r}$;for any sphere or semi sphere with q_r charge

North and south Semi sphere of ramions have reversed torque and consequently reversed electrical charges. In energy calculation they are appeared as $(\pm q_r)^2$so adds together as positive. In torque or electrical charge they are $\pm q_r$ and compensate each other to set total electrical charge of ramion at zero.

If we consider total electrical charge of ramion, it's zero then we have to calculate equivalent energy as Torque instead of electrical charge.

Basic equation shows electrical charge is only a mechanical concept (Area × Torque) and we know the magnetic field and Electromagnetic wave are generated by rotating or changes in Electrical field in their turn as Maxwell's laws explain.

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In Quantum part of basic equation we see

$$\textbf{(22)}\ E = \hbar\,\omega_m = \hbar\,\frac{c}{r_m} \quad \leftrightarrow \quad c = \omega_m .\, r_m \quad , \quad \hbar = \frac{r_m . E}{c}$$

In ramionics we define and calculate plank constant and fine structure constant easily:

When energy particles (means Ramions) and matter particles are ready to convert to each other or transport energy they must reach to similar radius $(\mathbf{r_m})$ and angular speed $(\boldsymbol{\omega_m = \frac{c}{r_m}})$ to have similar [rotational energy on total energy] ratio $(\frac{1}{2})$.

Thais happens for example in this cycle for this particles:

1-An energy particle: exited and ready to convert to matter

2-Fresh matter particle produced by energy

3-When ramions indents to supply E_P (electrical potential energy) to produce electrical force

4-When matter particles give or get electromagnetic wave energy (photons)

5-A matter particle: exited and ready to convert to energy

6-Fresh Energy particle produced by matter

Criteria to energy-matter matching:

$$\textbf{(23)}\ E = T = I\,\omega^2 = \hbar\,\omega_m = 2\frac{k_r\,{q_r}^2}{r_m} \text{ and } c = \omega_m .\, r_m$$

$$\textbf{(24)} \rightarrow \frac{1}{\alpha_r} = \frac{\hbar\ c}{k_r\,{q_r}^2} = 2 \quad ;\ \alpha_r \text{ Fine structure constant inside ramions}$$

$$\textbf{(25)}\ I = k_I\ m\ {r_m}^2 = k_I\left(\frac{E}{c^2}\right){r_m}^2 = \frac{k_I E}{{\omega_m}^2} \text{ and } E = I\,\omega^2$$

$k_I$examples: $\frac{2}{5}$ for sphere, 1 for loop, 1 for Ramion itself

$$\textbf{(26)} \rightarrow \omega_m = \sqrt{k_I}\ \omega \quad ;\text{needed } \omega_m \text{ for matter particles to transport energy with ramions; } \omega = \omega_{Ramion} = \frac{c}{r}$$

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Also using 12 and 36384 in FCC lattice-texture-framework we can calculate mass and electrical charge of elementary particles (passing as-yet unexplored frontiers of human knowledge)

In cosmological part of basic equation we see:

$$\textbf{(27)}\ \rho_r = \frac{\rho_s}{\varphi}\ ,\ \rho_s = \varphi\,\rho_r\ ,\ \varphi = \frac{\pi}{3\sqrt{2}} = 74.048\%$$

means energy density of space (so called dark energy) is ramions energy in their volume by factor of φ: the occupancy of ramions in their FCC lattice. We will show:

$$\textbf{(28)}\ C^4 = 8\pi G\rho_s\, R_D^2 \quad \text{;where G is gravity constant}$$

This equation relates Dark matter, Dark energy, Ramion Energy

And reality of Dark matter (forgotten gravity)

$$\textbf{(29)}\ g = \frac{GM}{R}\left(\frac{1}{R} + \frac{1}{R_D}\right)e^{-\frac{R}{R_D}}$$

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14.Geometry of Space Structure in Ramin Theory

Because the ramions repel one another in all directions, they ultimately reach a state of maximal compression. But in large scale they cause space and time to expand (dark energy's role).

So $P = \frac{\rho_r}{2}$ is the maximum capability of pressure, of cource there is many fluctuations (and also a little indentation for electromagnetic carrying) but high pressure in long time or hard collisions can cause the ramions to be collapsed and distributed to space (converting energy to mass)

Although usually both models (the FCC and HPC hexagonal) can be considered for ramion geometry, the FCC model, yields a softer space.

In the FCC model, each ramion has twelve nearest neighbours in the next layer, all tangent to it means layer 1 is very strong.

Table 1. Crystal Lattices — (FCC, BCC, HCP, Diamond)

Structure	Atoms/Cell	CN	Packing (APF)	Slip / Planes	Elements	Alloys & Applications	Mechanical Behavior
FCC (Face-Centered Cubic)	4	12	0.74 (74%) ; Vf = 0.74	12 slip systems on {111}<110> (close-packed) — easy slip	Al, Cu, Ni, Ag, Au, Pt, Pb, Ir, Pd	Austenitic stainless (γ-Fe), Ni superalloys (Inconel), Al-alloys (2xxx/6xxx/7xxx), Cu-alloys	Very ductile & tough; low DBTT; excellent formability
BCC (Body-Centered Cubic)	2	8	0.68 (68%) ; Vf = 0.68	{110}, {112}, {123}<111>; no close-packed planes → higher Peierls stress	α-Fe, Cr, W, Mo, V, Nb, Ta	Ferritic/martensitic steels, low-alloy steels; high-T strength (W, Mo)	Strong, less ductile; DBTT present; often harder/brittle at low T
HCP (Hexagonal Close-Packed)	6	12	0.74 (74%) ; Vf = 0.74	Basal {0001}<11-20> + prismatic/pyramidal; anisotropic; limited slip at RT	Mg, Ti(α), Zn, Zr, Co, Cd	Ti-6Al-4V (α+β), Mg-alloys (AZ31, ZK60), Zr-alloys (nuclear cladding)	Good specific strength; lower ductility at RT; texture-dependent
Diamond Cubic (Covalent)	8	4	≈0.34 (≈34%) ; Vf ≈ 0.34	Strong tetrahedral covalent bonds; cleavage on {111}	C (diamond), Si, Ge (SiC related polytypes)	Semiconductors (Si, Ge); diamond cutting/abrasives; heat spreaders	Extremely hard, brittle; Si/Ge are semiconductors

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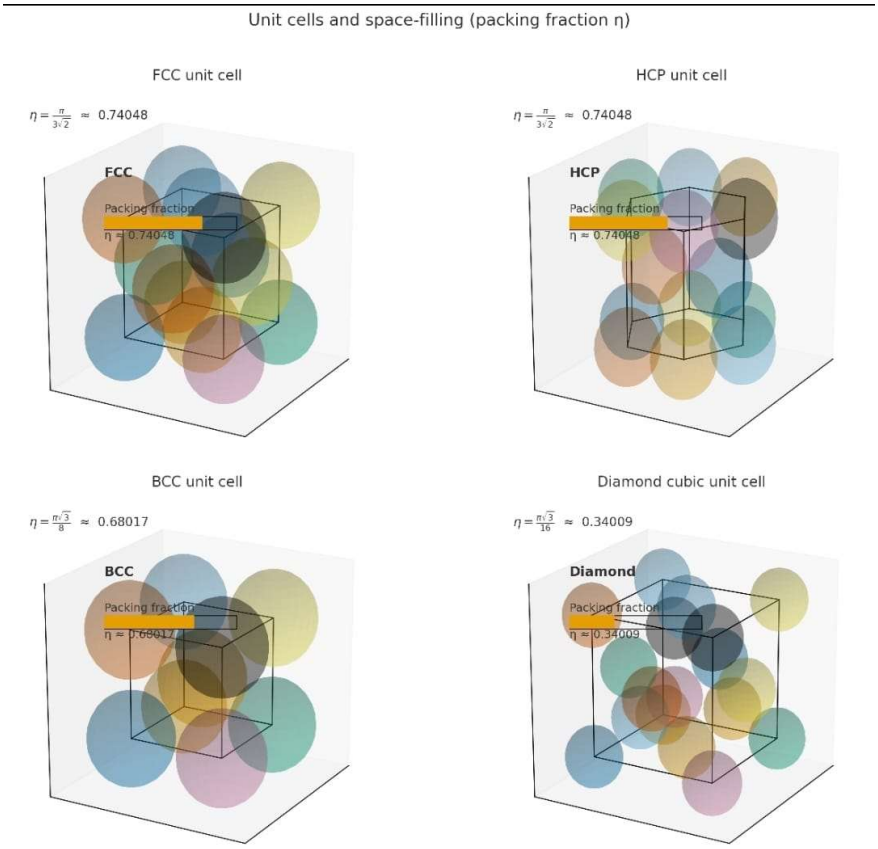

Figure 1

Geometry shows number of ramions in layer n as follows:

$$\textbf{(30)}\ L(n) = 10n^2 + 2$$

for example L(1)=12, L(2)=42 but L(0)=1 means centre

IL(t)=Rounded up of Inverse Function of L

The cumulative number up to and including layer N is:

$$\textbf{(31)}\ T(n) = (1\ for\ centre) + \sum_{k=1}^{n}(10k^2 + 2)$$

$$\textbf{(32)}\ \mathrm{T(n)} = (1\ for\ centre) + \frac{10\ \ ^3+15n^2+11n}{3}$$

IT(t)=Rounded up of Inverse Function of T

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(33) $\varphi = \frac{\pi}{3\sqrt{2}} = 0.74048048969$;volume occupancy

Ramion theory introduces two new geometry constant: φ' and β:

For layers sufficiently distant from the assumed centre, we have:

(34) $\varphi \frac{4\pi}{3} R^3 = N(n)\frac{4}{3}\pi r^3$

(35) $R = \varphi' n(2r)$;φ': $diameter\ factor$

(36) $\varphi \frac{4\pi}{3} (\varphi' n(2r))^3 = (10n^2)\frac{4}{3}\pi r^3$

(37) $\varphi' = \sqrt[3]{\frac{10}{24\varphi}} = \sqrt[3]{\frac{10\sqrt{2}}{8\pi}} = 0.8255785095$

Whether we consider ramions covered area as circle $\boldsymbol{\pi r^2}$ of their cross section area to layer sphere **or** as a hemisphere surface $\frac{\boldsymbol{4\pi r^2}}{\boldsymbol{2}}$ but with applying the cosine factor of vector multiplication,

the ratio of the ramions covered area to the layer area is **β**

(38) $(10n^2 + 2)\pi r^2 = \beta\, 4\,\pi\, R^2 = \beta\,(4\pi)\,(\varphi'\, n\, 2\, R)^2$

(39) $\rightarrow \beta = \frac{10}{16\varphi'^2} = \frac{10}{16\,(\frac{10\sqrt{2}}{8\pi})^{\frac{2}{3}}} = 0.91698716849$

We will see these parameters in fine structure constant that approves the geometry of energy distribution in the space means ramion lattice texture.

Geometric Classification of Volumetric, Surface, and Radial Parameters in FCC Layered Structure

1-Volume Models

R_{MPV} : Maximized Planar Volume

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R_{MCV} : Maximized Curved Volume, Caps

2-Surface Models

R_{MTS} : Maximized Total Spherical Surface (of Ramions Surface)

R_{MNS} : Maximized Normal (cosine weighted) Spherical Surface

R_{MPS} : Maximized Planar Section Surface, Circles

R_{MCS} : Maximized Curved Section Surface

3-Radial Models

3.1-Equalisation Base radial:

R_{EPV} :Equal Planar Volume (Internal and external due to R)

R_{ECV} : Equal Curved Volume, Caps

R_{ETS} : Equal Total Spherical Surface (of Ramions Surface)

R_{ENS} : Equal Normal cosine weighted Spherical Surface (of Ramions).

Layers have too much radius definitions and even we can define new radius by equalisation or maximization any couple of them. For example:

R_E**:** Equilibrium radius: Equal derivative of the occupied volume fraction and the cosine weighted surface contribution:

$$\textbf{(40)}\quad \frac{d}{dR}\frac{Volume\ occupancy}{R^3} = \frac{d}{dR}\frac{\text{cosine weighted surface}}{R^2}$$

For layer 1:

$$\textbf{(41)}\quad 3u^4 - 16\,u^3 + 18u^2 + 11 = 0\,;u = \frac{R_e}{r}$$

$$\textbf{(42)} \rightarrow\ R_{E1} = 2.1219157809\,r = R_1 + 2.1219157809\,r$$

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Physical Meaning: At Re, the volumetric expansion and the surface flux of the layer are dynamically balanced. This represents the geometric point where neither surface-dominated nor volume-dominated growth prevails.

3.2-Range based radial:

R_{AP} : Include or covers All Points of ramions volume, maximum distance to centre

R_{NP} : include None of Points this layer ramions volume, minimum distance to lattice centre, equals to previous layer R_{AP}

R_{AC} : Include or covers All Centres of ramions volume, maximum distance to centre

R_{NC} : include None of Centres this layer ramions volume, minimum distance centre

$$R_{MR}: mid\ range\ of\ all\ point\ or\ cenres: \frac{R_{AP} + R_{NP}}{2} = \frac{R_{AC} + R_{NC}}{2}$$

R_{CMed}: Centres median, median of distance between ramion Centres and lattice centre

3.3-average based radial:

R_{CMn}: power mean of centres position = $\sqrt[n]{\sum R_c^n}$

R_{CM}: Mean of centres position (=**R=Default Radius of layer)**

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15.Strong and super strong layers

The methods to determine strongest layer against collapsing:

1-mechanical test: too expensive: for example we need 3,333,333,333 testing bolls with force and torque sensors and a pressing system to determine weak and strong layers (only for layer 1 to 1000 analysis)

2-Computerised simulation: expensive yet: needs heavy program and huge super computers to analyse all forces and torques on so much spherical surface.

3-Radius analysis: layers that their all types of radius have relation similar to layer 1 or ∞ are strong because in layer 1 or ∞ all ramions are tangent to make strong layer. This method is better than two above mentioned methods but very hard yet

4-the best method introduced in Ramionics:

Strong layers are similar to layer 1 so they are 12 multiplier On the other hand Strong layers are similar to very large layers that their ramions number is $10n^2+2 \approx 10n^2$ so they 10 multiplier.

So we can conclude that strong layers are 120 multiplier (but 30 included)

Super strong layers numbers are 30×4^n, (also for other bases, but not needed in usual ramionic reactions)

30, 120, 480, 16×120, 64×120, 256*120, …

Strong layers: other 120 multipliers or factors:

1, 2, 3, 4, 5, 6, 8, 10, 12, 15, 20, 30, 40, 60, 240, 360, 600,…

larger layer is stronger (inside group)

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16.Quantumized Gravity, Relativity, Strong Forece and so called Dark Matter

(43) $\rho_r = \frac{\rho_s}{\varphi}$, $\rho_s = \varphi\, \rho_r$, $\varphi = \frac{\pi}{3\sqrt{2}} = 74.048\%$

ρ_r: Ramion volume energy density
ρ_s: Space Energy density

Not only matters are not created by stopping or concentration of energy but also Matters (for particles or even huge black holes) are collapsing some ramions and distributing their energy into other ramions in the space, more close more share of energy. After that a black hole remains with radius of r1=R_H and velocity of v1. This hole equation is same in elementary particles in an atom or huge black holes in the space. 12 expanded ramions with r1 radius surround that hole. so not only light, but also mass is a wave in space. There is no particle-wave paradox except what our observation (by eye or device) and technology prefers or lets us.

When Ramions get extra energy they can't save it by increasing their pressure or velocity (light speed C) is on maximum value for this universe and there is no space to increase volume. They can tolerate a little extra pressure but only as fluctuation or short time in their dynamics and not in steady state, else they collapse consequently. Only remained way is expanding space itself. But time (for observer on ramions surface) also must be expanded (dialled) with same factor (to save c and energy values) also Space expansion factor must exactly Balance Force on any Ramion and also on its layer simultaneously:

(44) $F_{(R)} = F_s \rightarrow r_{(R)}{}^2 P'_{(R)} = r_s{}^2 P_r \rightarrow r_{(R)}{}^2 \rho'_{(R)} = r_s{}^2 \rho_r$

F_s, r_s, t_s: Ramions Bond force, radius (or perimeter), times base at far steady state space
F, r, t: relative values sensed & observed at any ramions surface
$P'_{(R)}$ *and* $\rho'_{(R)}$: relative (not absolute) energy density and pressure as the observer on surface of ramion senses. They are less than P_r *and* ρ_r and so simulate a vacuum and gravity to the hole interpreted as matter.

(45) $\rho'_{(R)} = \rho_s\,(1 - f_{(R)})$

(46) $P'_{(R)} = P_s\,(1 - f_{(R)})$

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Function $f_{(R)}$ is defined to simplify solving equations.

$$\textbf{(47)}\ t_{(R)} = \frac{t_s}{\sqrt{1- f_{(R)}}} = t_s\sqrt{\frac{\rho_s}{\rho'_s}}$$

$$\textbf{(48)}\ r_{(R)} = \frac{r_s}{\sqrt{1- f_{(R)}}} = r_s\sqrt{\frac{\rho_s}{\rho'_s}}$$

Force on m2 is calculated by integralling $p' \times dS$ on its surface:

$$\textbf{(49)}\ \text{F} = \int P' \times dS$$

$$\textbf{(50)} \rightarrow\ F = (V_{m2} = \frac{m_2\, C^2}{\rho_2})(\frac{-\partial\, P'}{\partial\, R})\text{ , minus for gravity 9}$$

$$\textbf{(51)}\ \rho_{m2}: \textit{when we consider a particle as codensed mass in its hole}$$

g: gravity acceleration toward centre

$$\textbf{(52)} \rightarrow g_{m2} = (\frac{\rho_s}{\rho_2})\ \frac{c^2}{2}\ \left(\frac{-df}{dR}\right)$$;for one particle m2 when m1>>m2

$$\textbf{(53)} \rightarrow g_r = (\frac{\rho_s}{\rho_2})\ \frac{c^2}{2}\ \left(\frac{-df}{dR}\right)$$; for one ramion or neutrino N1

Condition m1>>m2 means all space expansion is due to m1,it consists of too much particles, Force on above formula only calculates Force of m1 on m2, to resolve these criteria and have same (F1=force of m2 on m1) and (F2=Force of m1 on m2) we have to consider geometrical mean of $\frac{\rho_s}{\rho_{m1}}$ and $\frac{\rho_s}{\rho_{m2}}$; on the other hand density of hole particle is proportional to particle's energy to power 3 because we are consider all energy in a small particle hole with radius near to r. so the refining factor for g and G is:

$$\textbf{(54)}\ G_{pq} = G_r\ \frac{\rho_s}{\sqrt{\rho_p\ \rho_q}}\ \ ;\ \ g_{pq} = g_r\ \frac{\rho_s}{\sqrt{\rho_p\ \rho_q}}$$

energy balance equation:

$$\textbf{(55)}\ m_1C^2 = E_{m1} = \int_0^\infty(\rho_s - \rho')\ 4\pi R^2\, dR$$

$$\textbf{(56)}\ m_1C^2 = 4\pi\rho_s \int_0^\infty f\, R^2\, dR$$

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So we have 3 criteria's:

1 - $f_{(R)}$function must be bounded between 0 to 1, Continues, Differentiable , monotonically decreasing functions, convergent to zero at infinity.

2 - $\left(\frac{-df}{dR}\right)\ functions$ Must be monotonically decreasing functions, convergent to zero at infinity.

3 – $integral\ (\int_0^\infty f\ R^2\ dR)$ Must be finite and positive, so that energy can be balanced.

The general solution:

(57) $f = (\frac{B}{R})^k\ \mathrm{e}^{-(\frac{R}{A})^P}$; criteria: $0 < \mathrm{p} \leq \mathrm{k} < 3$

factor $(\frac{B}{R})^k$ is needed to decrease function in close R when exponential factor $\mathrm{e}^{-(\frac{R}{A})^P}$ is almost 1. exponential factor is needed to limit the calculated energy, forgetting this part leaded to dark matter idea.

In very close or accurate calculation we have to compute discrete equations of FCC lattice, all needed equations or supported in ramionics, but in most application continues analyses is enough:

Solution A: Integer k and p: Discreted k and p

(58) $f = \sum f_{kp} = \sum (\frac{B_{kp}}{R})^k\ e^{-(\frac{R}{A_{kp}})^P}$

Gravitational Acceleration:

(59) $g = \sum g_{kp} = \sum \frac{C^2}{2}\left(\frac{-df_{kp}}{d_R}\right) = \frac{C^2}{2} \sum (\frac{B_{kp}}{R})^k \frac{1}{R}\left\{k + p\ (\frac{R}{A_{kp}})^p\right\}\ e^{-(\frac{R}{A_{kp}})^P}$

Energy Balance:

(60) $E = \sum E_{kp} = \sum 4\pi\rho_s\ B_{kp}^k\ A_{kp}^{3-k} z_k(p)$

(61) $z_k(p) = \left(\frac{1}{p}\right)\Gamma\left(\frac{3-k}{p}\right)$ $when\ \Gamma(n) = (n-1)!$ Gamma function

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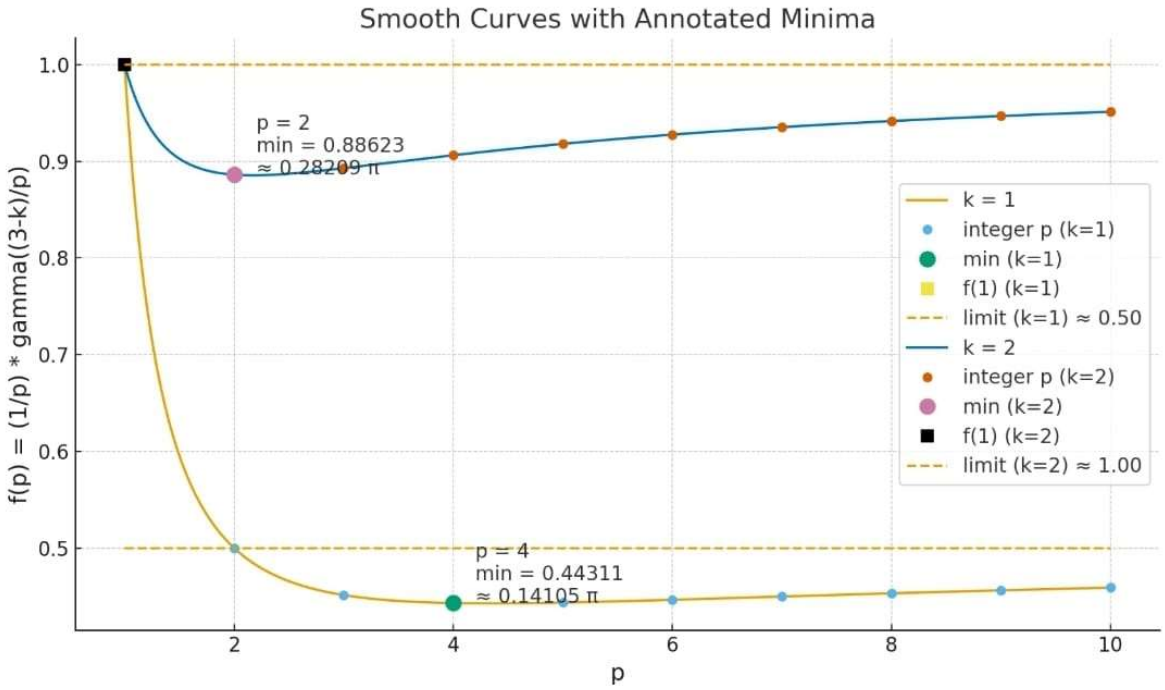
Therefore: we have 3 terms in answer :

K=1, p=1 Long Range Gravity: consist of bright Gravity (proportional to 1/R2 as great Newton and great Einstein said) and Dark Gravity at far range (so called dark matter that Ramion Theory explains and models it simply without any dark matter particle)

K=2, p=1 Middle Range Gravity (between short and long) maybe its helpful in fitting long range and short range gravities.

K=2, p=2 short Range Gravity means Strong nuclear force



$$\textbf{(62)}\ \rho'_s = \rho_s\left(1 - \frac{R_F}{R}e^{-\frac{R}{R_D}} - \left(\frac{B_1}{R}\right)^2 e^{-\frac{R}{A_1}} - \left(\frac{B_2}{R}\right)^2 e^{-(\frac{R}{A_2})^2}\right)$$

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$$\textbf{(63)}\ g_r = \frac{C^2}{2R}\left\{\begin{array}{c} (\frac{R_F}{R})^1 \left(1+1\left(\frac{R}{R_D}\right)^1\right) e^{-\frac{R}{R_D}} \\ +\left(\frac{B_1}{R}\right)^2 \left(2+1\left(\frac{R}{A_1}\right)^1\right) e^{-\frac{R}{A_1}} \\ +\left(\frac{B_2}{R}\right)^2 \left(2+2\left(\frac{R}{A_2}\right)^2\right) e^{-\left(\frac{R}{A_2}\right)^2} \end{array}\right\}$$

In energy balancing we can ignore energy of k=2 parts:

$$\textbf{(64)}\ R_F = \frac{2G\,M}{C^2} \text{ and } g = \frac{GM}{R}\left(\frac{1}{R}+\frac{1}{R_D}\right)e^{-\frac{R}{R_D}}$$

$$\textbf{(65)}\ E = 4\pi\rho_s \left\{\begin{array}{c} R_F^1\, R_D^2 \int_0^\infty x\, e^{-(x)^1}\, dx \\ +\ {B_1}^2\, {A_1}^1 \int_0^\infty x^2\ e^{-(x)^1} dx \\ +{B_2}^2\, {A_2}^1 \int_0^\infty x^2\ e^{-(x)^2} dx \end{array}\right\}$$

$$\textbf{(66)}\ E = 4\pi\rho_s\, R_F^1\, R_D^2$$

$$\textbf{(67)} \rightarrow\ E = 4\pi\rho_s \left(R_F = \frac{2\,G\,M}{C^2}\right) R_D^2$$

$\textbf{(68)} \rightarrow C^4 = 8\pi G\rho_s R_D^2$ relating light speed c , G constant, space energy density ρ_s and radius of dark gravity observation R_D.

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17.Solution B: floating k and p: Continues k and p

As the distance R decreases from infinity to R1, parameters k=p increase from 1 to 2:

(69) $k = \mathrm{p} = \left(1 + \frac{R_1}{R}\right)$

R >> R_1 results in K=p=1

R_1 : Surface of particle hole where k=p=2

(70) $\rho'_s = \rho_s(1-f) = \rho_s\left(1 - \left(\frac{R_F}{R}\right)^{\left(1+\frac{R_1}{R}\right)} e^{-\left(\frac{R}{R_D}\right)^{\left(1+\frac{R_1}{R}\right)}}\right)$

(71) $R_{\mathrm{D}} \gg R_{\mathrm{F}} \gg R_1 \rightarrow$ above equation is very simple

For long range R>>R_1 we see Bright and Dark gravity:

(72) $\rho'_s = \rho_s(1 - \frac{R_F}{R} e^{-\frac{R}{R_D}})$

(73) $g = \frac{G\,M}{R}\left(\frac{1}{R} + \frac{1}{R_D}\right) e^{-\frac{R}{R_D}}$

For short range R we see strong nuclear force:

(74) $\rho'_s = \rho_s(1 - \left(\frac{R_F}{R}\right)^2) e^{-\left(\frac{R}{R_D}\right)^2})$

(75) $g = \frac{G\,M}{R^2}\left(2 + 2\left(\frac{R_F}{R}\right)^2) e^{-(\frac{R}{R_D})^2}\right)$

Energy:

(76) $E_m = \rho_s \int_0^\infty f\ 4\pi R^2\ dR$

$=4\pi\rho_s R_F\ R_D^2(\ 1\ + \frac{R_1}{R_D}(\ln(\frac{R_F}{R_D}) + 2\gamma - 1)\ + 0(\frac{R_1^2}{R_D^2})\ )$

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γ =0.5772156649 Euler – Mascheroni constant

O: big O function, Order of the error term, nothing to calculate

(77) $E_m = 4\pi\rho_s R_F\, R_D^2 \rightarrow C^4 = 8\pi G\rho_s\, R_D^2$

same as solution A ; because $R_1 \ll R_D$

(78) $E_x = \rho_s \int_0^x f\ 4\pi R^2\, dR =$

$$= 4\pi\rho_s R_F\, R_{Dp}^2 \left(1 - e^{-\frac{x}{R_D}}\right)\left(1 + \frac{x}{R_D}\right)$$

$= 4\pi\rho_s x R_F R_D$;for small x

E_x is proportional to x near centre, it means density is proportional to $\frac{1}{R^2}$ so We can conclude If we suppose all mass concentrated in the particle hole (for simplify calculation and not really), its density inside the hole changes proportional to $\frac{1}{R^2}$, the results are same:

(79) $\begin{cases} \int_0^{R_H} (\rho_m\ \frac{R_H^2}{3R^2})\ 4\pi R^2 dR = \rho_m \left(\frac{4\pi}{3} R_H^3\right) \\ \int_0^{R_H} (\rho_m)\ 4\pi R^2 dR = \rho_m \left(\frac{4\pi}{3} R_H^3\right) \end{cases}$

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19.Relativity and Time dilation

$$\textbf{(80)}\quad t_{(R)} = \frac{t_s}{\sqrt{1- f_{(R)}}} = t_s\sqrt{\frac{\rho_s}{\rho'_s} = \frac{r^2}{{r_s}^2}} = t_s\frac{r}{r_s}$$

For example in long range part of gravity:

$$\textbf{(81)}\quad t_{(R)} = \frac{t_s}{\sqrt{1-(\frac{R_F}{R})}} = \frac{t_s}{\sqrt{1-(\frac{2G\,M}{c^2\,R})}}$$

If a mass moves at speed **v**, we obtain the following relation:

$$\textbf{(82)}\; t_{(R)} = t_s\sqrt{1-(\frac{v^2}{c^2} = \frac{R_F}{R})}$$

There is no distinction between these two terms $\frac{v^2}{c^2}\ or\ \frac{R_F}{R}$ just as a body must $obtain$ the speed V (escape velocity) to escape of gravity of $itself$.

However, the speed and the energy are observer-independent. When a mass "moves", the ramions effectively move in the opposite direction because mass is a hole and distributed energy in all space.

In this theory we can study time dilation more than relativity or quantum theories by above formulas.

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20.Energy of moving objects:

We can simply form R' function like to R'(x,y,z) or R'(R,θ,φ) or R(r, φ,z) to obtain distance of any point in space to last position of object due to ratio of its (v or ω) to c.

(in fact gravitational wave is travelling by light speed because this is maximum speed of data or energy through Ramions unless a narrow net connects two Ramions by empty geometry between other Ramions in warm hole or entanglement state)

Anyway we consider gravity speed as c

$$\mathbf{(83)}\ E = \rho_S \int \frac{R_F}{R'} e^{-\frac{R'}{R_D}} dV$$

for example in spherical:

$$\mathbf{(84)}\ E = \rho_S \int \frac{R_F}{R'} e^{-\frac{R'}{R_D}} 4\pi R^2 dR$$

If an object moves with speed x along a straight line, every point in space (at distance R from it) senses it $v\,\Delta t$ behind, therefore:

If an rotates on a circle of radius r with angular speed ω:

So in Ramin theory energy of rotating object on closed routes is not infinity

and based on the path we simply and accurately compute the energy attributed to the object.

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21.Electromagnetism, weak Force and Fine Structure constant

Electrical charges: When a particle forms (i.e., a cavity or black hole devoid of ramion), then around that cavity, in a persistent manner, twelve ramion are situated.

These twelve Ramions are located around the cavity and must satisfy torque equilibrium. Therefore, they form pairs—two by two—that produce similar charge.

As a result, we have six pairs with positive and negative charge.

Among these six pairs, if all have the same sign, we have charge -e or +p.

Thus, each Ramion has the electric charge as follows: $\pm\frac{e}{12}$

If one pair is opposite to the others, then the net charge is:

(85) Q= $\pm\frac{8}{12}e = \pm\frac{2}{3}e$

And if two pairs are opposite to the other four pairs, the net charge will be as follows:

(86) Q=$\pm\frac{4}{12}\ e = \ \pm\frac{1}{3}\ e$

Ramionics describes simply why the possible charges of any particle can only be the 7 following numbers:0 or $\pm 1\ or\ \pm\frac{2}{3}\ or\ \pm\frac{1}{3}$

Electrical potential energy (Ep)

Electrical Charge is equivalent to Torque and rotational Energy so similar electrical charges repel each other so collecting them on any surface needs energy (Like any capacitor) that can be calculated by two simple integrals:

(87) $E_r = 2\ E_{Rr} = 4\ E_P =$ T

(88) $E_{\Delta Q} = \int_{\infty}^{r} -F\ dra = \int_{\infty}^{r} \frac{-\ K_r\ Q\ \Delta Q}{R^2} dR = \frac{K_r\ Q\ \Delta Q}{r}$ minus sign: save Energy

(89) $E_P\ = \int_0^{q_r} \frac{K_r\ Q\ dQ}{r} = \frac{K_r\ {q_r}^2}{2r}$ for any sphere or semi sphere with q_r charge

for particles consisted of n Ramion:

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(90) $E_P = \sum_{t=2}^{n} (t-1)\ \frac{K_r\,(Q/n)^2}{2\,R_Q}$ $\quad R_Q: radius\ for\ charges\ surface$

(91) $E_p = \frac{K_r}{2\,R_Q}\left(\frac{Q}{n}\right)^2 \frac{n\,(n-1)}{n^2} = \frac{K_r\,Q^2}{2\,R_q}\left(1-\frac{1}{n}\right) = \frac{K_n\,Q^2}{2\,R_q}$

(92) $E_p = \frac{K_n\,Q^2}{2\,R_q}\ ;\ K_n = K_r\left(1-\frac{1}{n}\right);\ K_\infty = K_r$

The coefficient **Quantom Factor** $\left(1-\frac{1}{n}\right)$ refines formulas and is very important and needed to compensate error of continues calculation on really discrete parameters.

This quantum factor converts Q^2 when considered as continues parameter to Q^2 as a discrete charge produced by ramions.

Fine Construction Constant

(93) Definition: $\alpha_{B1} = \frac{K_{B1}\,e^2}{\hbar\,c} \longleftrightarrow K_{B1} = \frac{\alpha_{B1}\,\hbar\,c}{e^2}$

In Ramionics we know Electrical Field is carried by Ramions with their indentation proportional to their E_P (Electrical Potential Energy) and if pure force between electron and neutron is zero So we can say all baryons of generation 1 (down and up quarks and electrons) are similar (with same total E we name it E_{B1}) with equal radius so their $E_P = \frac{kq^2}{2\,r}$ is proportional to q^2

Alpha measured values for B1 Baryons (electron, up, down)

(94) $\frac{1}{\alpha} = 137.035999046(\pm 27)$ Cz recoil (Berkeley 2018)

(95) $\frac{1}{\alpha} = 137.035999206(\pm 11)$ Rb recoil (LKB,Paris 2020)

(96) $\frac{1}{\alpha} = 137.035999177(\pm 21)$ CODATA (2022) ; Committee on Data for Science and Technology

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In Ramionics we see all B1 (baryons of generation 1: Down Quark, Up Quark, Electron) have total energy (Mass + E_P) of:

$$\textbf{(97)}\ n_g = \frac{E_{Bg}}{E_r} = \left\{\frac{3\varphi}{\gamma^3}12^2\right\}64^{\mathrm{g}} = \left\{\frac{4\pi^2}{10}\ 12^2\right\}64^{\mathrm{g}} = \left\{\frac{4}{10}(12\pi)^2\right\}64^{\mathrm{g}}$$

$$n_g = 12\ \mathrm{RoundUp}\left(W_g\right);\ W_g = \frac{4}{10}12\pi^2 64^{\mathrm{g}}$$

$$\rightarrow W_0 = 47.4\ ;\ n0 = 12 * 48 = 576;\ W_1 = 3031.9;\ n1 = 36384;$$

it means any B1 is made by collapsing 36384 Ramions

64^{g} : baryon generation factor

$\frac{3\varphi}{\gamma^3}12^2$: Ideal FCC to balance volume /surface, Energy /Torque

$$\textbf{(98)}\ \frac{1}{\alpha_\infty} = \pi\gamma^2\ 64^{\mathrm{g}} = \pi\ \left(\frac{10\sqrt{2}}{8\pi}\right)^{\frac{2}{3}}\ 64 = 137.03976507112$$

$$\textbf{(99)}\ \frac{1}{\alpha_{E1,E2}} = \frac{1}{\alpha_\infty}\sqrt{1-\frac{1}{6+N_1}}\sqrt{1-\frac{1}{6+N_2}}\ ;\ \alpha\ for\ particles\ E1\ \&\ E2$$

$$\textbf{(100)}\quad \frac{1}{\alpha_{B1}} = \frac{1}{\alpha_\infty}\left(\sqrt{1-\frac{1}{6+N_1}}\ \right)^2 = 137.03599920783\ ;\ \text{for any B1}$$

When we calculate electrical force by $\frac{\alpha\,\hbar\,c}{R^2}$ there is no need to multiply

$Q_{\mathrm{f}} = \sqrt{1-\frac{1}{6+N_1}}$ factors but alpha is defined as $\alpha_{B1} = \frac{K_{B1}\,e^2}{\hbar\,c}$ so alpha needs to be divided by means $\frac{1}{\alpha_{B1}}$ needs to be multiplied in Q_{f} factors.

So Electrical Force depends on Total Energy of particle, More Energy means larger Radius, Less Ep, Less Force. We need to double check mass and electrical charge measured or calculated for Heavy Particles (B1 next generation).

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Another idea is using $\sqrt{1-\frac{5}{30+181920}}$ for discrete factor instead of $\sqrt{1-\frac{1}{36390}}$ the results are same for fine structure:Factor 5 models area ratio of horizon radius to particle hole radius. Horizon radius $\sqrt{5}r$ is the radius that we want to consider all electrical charge surface when we have considered all the mass inside the hole before. Notice that gravity at $\sqrt{5}r$ is at maximum state and there is a negative gravity in the inner radius .

Electrical field distribution calculation sample:

Ramions supply E_{Pe} easily by getting align with electrical field and a little indentation, with giving Energy of overlapped volume to space and a little decreasing in their pressure. No need to expand or stretch Space-Time. They need manipulating space time when receiving energy not at sending energy because they can't increase the pressure. This process describes how electrical field is distributed without any energy or need to photon or electrical field lines.

This Negative Equivalent Mass or energy and force (maybe in combination with the strong nuclear force) and possibility of collapsing Ramion because of too indentation is modelled by weak nuclear force.

Suppose two particles $(Q1, R1, r1 = r_{m1})\ and\ (Q2, R2, r2 = r_{m2})$

Q2 on centre and Q1 on Z axis at far distance: R>>R1 and R>>R2

(101) $$V_{common} = 2V_{cap} = 2\pi d^2 r\left(1 - \frac{d}{3r}\right)$$

r, v: $ramions\ radius$ and volume , d: indentation depth

$any\ commom\ \ volume\ consists\ of\ 2\ caps$

(102) $$\frac{V_c}{V} = \frac{3}{2}\left(\frac{d}{r}\right)^2\left(1 - \frac{d}{3r}\right) = \frac{3}{2}\left(\frac{d}{r}\right)^2 \ ;\ d \ll r$$

Electrical Potential Energy of Q1

(103) $$E_{p1} = \frac{K_r}{2R_1}{Q_1}^2\left(1 - \frac{E_r}{E_{Q1}}\right)$$

(104) $$R_1 = \sqrt{5}\, r_1 \quad ;\ \text{a little larger than } 2r_1$$

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Radius of an electrically charged particles must be defined on a radius that sum of internal part of ramions is exactly equal to sum of external part of ramions. $\sqrt{5}$ is calculated by geometry. r1 is the radius of central hole = radius of any of 12 ramions surrounded it.

(105) $$E_{p1} = 12\, E_{Q1L1}\, \frac{V_c}{V} = 18\, \rho_r \left(\frac{d_1}{r_1}\right)^2 \;;; E_p supplied\ by\ indentation$$

E_{Q1L1}: Energy of layer 1 ramions of Q1

d1: indentation of layer 1 to layer 2 to supply Electrical potential energy. layer2 will get total of this energy be indentation to layer 2 and …This process explain how electrical field is distributed in the space.

(106) $$E_{p1} = \rho_r 2\pi r\, (d_n)^2\, L(n) \;; E_p\ Distribution\ on\ layer\ n$$

(107) $$L(n) = 10n^2 + 2 \;; R = \square\text{'n2r} \;; \text{from Fcc Geometry}$$

(108) $$E_{p1} = \rho_r 2\pi r\, (d_n)^2 \frac{10R^2}{4\ \alpha'^2\ r^2} \quad ; E_{p1} = \frac{K_r}{2\,R_1} {Q_1}^2 \left(1 - \frac{E_r}{E_{Q1}}\right)$$

(109) $$d_{(R)}{}^2 = \frac{\alpha'^2}{10\,\pi}\, \frac{k_r}{\rho_r}\, {Q_1}^2 \left(1 - \frac{E_r}{E_{Q1}}\right) \frac{r}{R_1} \frac{1}{R^2} \quad \rightarrow d: Proportional\ to\ \frac{1}{R}$$

pressuring part of ramions energy supports **Ep energy** while **rotating part** of ramions energy carries **electrical Force**. **So electrical field distributes to infinity by indentation without and force and without any energy**. Until it hits to another electrical charge Q2.

At **first step** we suppose Q1>>Q2 so ramions layer 1 of Q2 have indentation normal to z axis due to Q1 (anyway their torque direction is from centre of Q2)

Moment of inertia in parallel with rotation axis:

(110) $$I_{\parallel} = I_Z = \frac{\pi\, m}{60} d^3 (40\, r^2 - 30\, d\, r + 6\, d^2)$$

Moment of inertia Normal to rotation axis:

(111) $$I_{\perp} = I_X = \frac{\pi\, m}{60} d^2 (60\, r^3 - 80\ d\, r^2 + 45\ d^2 r - 9\, d^3)$$

Total Moment of inertia as great Edward John Routh explained:

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(112) $I = I_{\parallel} Cos^2\theta + I_{\perp} Sin^2\theta$

(113) $F_Z = \frac{\pi}{4} \rho_m \omega^2 d^2 (2r_2 - d)^2 Sin^2\theta$

F_z or Force toward Q1 generated by rotation of any ramion around Q2 black hole:

(114) $F_Z = \pi \frac{\rho_r}{c^2} \omega^2 d^2 {r_2}^2 Sin^2\theta \; ; \; \rho_m = \frac{\rho_r}{c^2} \; ; \; r_2 \ll d$

(115) $F_Z = \pi \, \rho_r \frac{d^2 {r_2}^2}{r^2} Sin^2\theta \; ; c = r\omega$

(116) $F_2 = (8 \; (sin \; \frac{\pi}{4})^2 + 4 \, (sin \; \frac{\pi}{2})^2) \, F_Z \quad ; F \; of \; Q_1 on \; Q_2$

(117) $F_2 = 8 \, F_Z$

(118) $F_2 = 8\pi \, \rho_r \frac{{r_2}^2}{r^2} d^2 \quad ; {d_{(R)}}^2 = \frac{\alpha'^2}{10\,\pi} \frac{k_r}{\rho_r} {Q_1}^2 \left(1 - \frac{E_r}{E_{Q1}}\right) \frac{r}{R_1} \frac{1}{R^2}$

(119) $F_2 = \frac{8 \, \alpha'^2}{10} \frac{{r_2}^2}{r \, R_1 \, R^2} k_r {Q_1}^2 \left(1 - \frac{E_r}{E_{Q1}}\right)$

to make symmetry and remove criteria $Q_1 \gg Q_2$:

(120) $F_1 = \frac{8 \, \alpha'^2}{10} \frac{{r_1}^2}{r \, R_2 \, R^2} k_r {Q_2}^2 \left(1 - \frac{E_r}{E_{Q2}}\right)$

(121) $F = F_{Q1,Q2} = \sqrt{F_1 F_2}$

(122) $F = \frac{8 \, \alpha'^2}{10} \sqrt{\frac{{r_1}^2}{r \, R_1}} \sqrt{\frac{{r_2}^2}{r \, R_2}} \frac{k_r Q_1 Q_1}{R^2} \sqrt{1 - \frac{E_r}{E_{Q1}}} \sqrt{1 - \frac{E_r}{E_{Q2}}}$

(123) $\frac{8 \, \alpha'^2}{10} \sqrt{\frac{{r_1}^2}{r \, R_1}} \sqrt{\frac{{r_2}^2}{r \, R_2}} = 1$

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22.Matter–antimatter Asymmetry

Our Universe is similar to a Ramion—perhaps a ramion nested within its mother cosmos, with the possibility of an unbounded mother–daughter hierarchy, or even a recursion in which the whole curls back into its own core. In any case, the only plausible rationale for the breaking of matter–antimatter symmetry is that our Universe is currently performing the rotation.

If, in our surroundings (i.e., within the hemisphere of the Universe we inhabit), the rotation is such that a slight negative charge resides in the internal vacuum of space, then this small excess (together with electric-charge conservation) drives the heavier particles to become + and the lighter particles to become −.

Thus, in the other hemisphere of our universe, antimatter may perhaps dominate.

Therefore, if cosmological observations in our vicinity allow us to determine the prevailing direction of rotation, that direction, reflected within the ramion, can likewise indicate whether a clockwise produces of a ramion corresponds to positive or to negative charge.

Photon is not merely an electromagnetic wave; macroscopic bodies may likewise be regarded as hypothetical quanta. Accordingly, both material quanta and photon are, in essence, waves rather than particles. Under certain observational conditions, however, they may be perceived and registered as particles.

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23.Photons and ħ in Ramionics

A single Ramion cannot act as a photon on its own, because it would have to change either its rotational speed or its direction of rotation, and it has no force to accomplish either.

Consequently, the electric field generated by the rotation of the Ramion—and, on larger scales, as described by the Maxwell's equations—by its own rotation gives rise to a magnetic field. However, since this energy transfer ultimately proceeds in the form of Ramion quanta, it can be regarded as a quantum of energy, termed photon. The energy of this photon is similar to the hypothetical Coriolis force:

(124) $F = m(c) \times w$

(125) $E = m\,(rv) \times w = mrc\,w =$

$$\hbar = mrc \quad [reduced\ Planck\ constant\ ] \rightarrow E = \hbar\, w \quad [For\ photon]$$

$$[For\ real\ Ramion]\ \hbar\, c = mrc^2 = m\,c^2\,r = er$$

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24.Elementary particles

Figure 2: **Elementary particle table**

In the ramion, not only the fine-structure constant but also the reason for the electric charges $0, \pm 1, \pm\frac{2}{3}$ *or* $\frac{1}{3}$, the matter–antimatter asymmetry, and the specific masses of the elementary particles are readily calculable.
With the Ramion theory, the dynamics of ramion (elementary-particle) reactions can likewise be modelled with the highest conceivable precision.

In space geometry we saw $L(n)=10n^2+2$=(number of ramions of layer n) and

$T(n)=1+(10n^3+15n^2+11n)/3$=(number of ramions from centre to layer n).

Strong layers: When Ramions (means Energy) is converting to matter particles, it means some ramions collapse and explode their energy into space consequently but Strong Layers protect space network and universe against full collapsing.

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Calculating them needs huge computers but Ramionics suggests easiest way:

They are most similar layers to real Sphere so:

1-They are similar to layer 0 (solo centre) or 1(with 12 tangent Ramions) so their number is multiples of 12

2-They are similar to very large layers ($10n^2+2$) so their number is multiples of 10

So strong layers are 120K or 120/K

but very strong layers are:

$N_{Strong} = 120 \times 2^{2n}$; n: integer

Because Surface and volume grows proportional to 2^{4n} and 2^{6n} and torque (electrical charge) balance and distribution is repeat as previos generation easily. 6 is multiplier of 2 (for surface) and 3(for volume) so 2^{6n} is the best multiplier to copy stability of layer 120;

So we can expect baryon mass grows by g=generation as 2^{6n}=32^n

Neutrinos are simple particles without electrical charge or any type of quark.

For example

N(4)=N309 ; T(4)=1+12+42+92+162

They are usually formed by collapsing layers 1 to n and making k neutrinos also they can be received or transmitted (radiated) in Ramionic reactions so they can have catalytic effect or start, Relax (Temporarily reduce speed to complete some stages like electrical charges stabling) and finally balance energy then stop a Ramionic reaction.

Huge Black Hole are neutrino type.

Neutrinos have wide range of mass and electrical charge free, short duration with electrical charge

Baryons have special range of mass and electrical charge free, short duration with electrical charge

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Stable baryons:

(126) $$\frac{E_{Bg}}{E_r} = [5]\frac{4}{10}(12\pi)^2\ 64^{g} \rightarrow \frac{E_{B1}}{E_r} = [5]36384$$

it means any B1 is made by collapsing [181920] 36384 Ramions

In above formula 2^{6g} represent very strong layers formula means 120,4*120,16*120,…

12 and 10 are forced by FCC geometry to have most symmetrical and effective torque balance and distribution to have electrical charge

We can predict heavier baryons in next generation to have total energy of B1*64,…

In Ramionic reactions **most similar, large, stable packets** and particles are produced **So Layer 119 products are:**

(127) **Baryonn balancing till layer 120:**

For 36384:

T(119) =5688439= 5{31*(36384+309)+200}+24

T(119) =5688439= 31(5*(36384+309)+33)+1

T(119) =5688439= 31(5*36384+1548)+1

For 181920:

T(119) =5688439= 31(181920+1548)+1

1548=N7+2N2+N1+10N0 ;N7=1415; N4=309; N3=147 ;N2=55;N1=13 ;N0=1

Any packet can be transformed to 15 U +9 D +7 after electrical charging then transform to (7 proton+7electron+1 neutron) after getting extra energy

31,15,7 in this packaging are $2^n - 1$ and 9 is $2^n + 1$ means neutron to proton ratio off 7

(128) $$\frac{\boldsymbol{Nutrino\ Energy}}{\boldsymbol{Baryon\ Energy}} = \frac{31*1548+1}{5688439} = \frac{46429}{5640450} = 0.0084\ ;\ \text{till } 120$$

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E_r: Ramion energy calculation:

(129) $algorithme$:

$$(T(479) - 31 * 1578)E_r = \frac{5}{[5]}(1\ E_N + 7\ E_{Pr} + 7\ E_E)$$

$E_N = 939.56542052\ MeV$

$E_{Pr} = 938.27208816\ MeV$

$E_e = 0.51099895000\ MeV$

$T(479) = 367489759$

$$E_r = \frac{7511.04703029}{367489759 - 31 \times 1548}$$

$$\boldsymbol{E_r = \frac{1}{[5]} 102.2073104243 eV}$$

$$\boldsymbol{E = \frac{1}{[5]}\ 1.63754164585 \times\ 10^{-17} J}$$

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$$\boldsymbol{E_r = 20.44146208486eV \text{ for n=181920}}$$

$$\boldsymbol{E = 3.2750832917 \times 10^{-18} \text{ J for n=181920}}$$

$E_{B1} = 3.7187201946\ MeV$

$E_{Pe} = E_{B1} - E_e = 3.2077212446\ MeV$

(130) $refined\ Value\ (without\ E_P)$

$$E_D = E_{B1} - \frac{E_{Pe}}{9} = 3.3623067\ MeV$$

$$E_U = E_{B1} - \frac{4E_{Pe}}{9} = 2.2930663\ MeV$$

$$E_D - E_U = 1.0692404\ MeV \approx E_N - E_{Pr} = 1.29333236\ MeV$$

(131) $E_{Pe} = 156922\ E_r$

(132) $\frac{E_P\ of\ Packet}{E_{Pe}} = (15 \times \frac{4}{9}) + (9 \times \frac{1}{9}) + (7 \times 1) = 14\frac{6}{9}$

We see one neutrino N(4) is generated with any EUD in the major Ramionic reaction. some of generated neutrino continues this reaction to more layers to convert B1 to NPE (Neutron proton electron) the others starts new reactions and remained neutrinos may be be radiated and even participate in Cosmic microwave Neutrino **CνB** or Cosmic microwave background **CMB.**

Layer 120 can't resist against collapsing Anyway collapsing continues until the next very strong layer 120*4=480

After layer 120 process speed is very high and released energy can only saved as rotational energy (Magnetic energy) on neutron and proton (electron is ignored in our approximation because of less radius compared to proton and neutron.

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Ramionics need no Energy or Force carrier or mass generator particle (like H boson) or Dark matter or Dark energy. all of them simply are explained by Ramions. Other particle may be wrong interpret or huge neutrino or complex particles. because in Ramionics we now 12 ramions around any particle hole have electrical charge even on Neutral particles so any particle can have 12 bond with other particles. In proton and neutron central particle uses only 2 bonds.

Ramionics is compatible with QFD except that in Ramionics there is only one fluctuating field: Ramions,

Ramionics help QCD o do more effective calculation without gluon

Ramionic models space-Time particles but real and 3 Dimensional.

Bosons can be neutrino, baryon, or complex particle (particle has 12 bonding capacity)

Boson layer estimation:

W: 60k−1 → n=1079 ،Δ%=+6.64 | 120k−1 → n=1079 ،Δ%=+6.64
Z: 60k−1 → n=1079 ،Δ%=−6.00 | 120k−1 → n=1079 ،Δ%=−6.00
H: 60k−1 → n=1199 ،Δ%=−6.19 | 120k−1 → n=1199 ،Δ%=−6.19
2W: 60k−1 → n=1319 ،Δ%=−2.62 | 120k−1 → n=1319 ،Δ%=−2.62

W+Z: 60k−1 → n=1379 ،Δ%=+4.26 | 120k−1 → n=1319 ،Δ%=−8.76
Z+H: 60k−1 → n=1499 ،Δ%=+6.10 | 120k−1 → n=1439 ،Δ%=−6.14
2W+Z: 60k−1 → n=1559 ،Δ%=+2.57 | 120k−1 → n=1559 ،Δ%=+2.57
W+Z+H: 60k−1 → n=1619 ،Δ%=−2.52 | 120k−1 → n=1679 ،Δ%=+8.72

3H: 60k−1 → n=1739 ،Δ%=−4.63 | 120k−1 → n=1799 ،Δ%=+5.58
2H+W: 60k−1 → n=1679 ،Δ%=−2.50 | 120k−1 → n=1679 ،Δ%=−2.50
3W: 60k−1 → n=1499 ،Δ%=−4.73 | 120k−1 → n=1559 ،Δ%=+7.17
2Z+2H: 60k−1 → n=1859 ،Δ%=+1.16 | 120k−1 → n=1799 ،Δ%=−8.32

W+3Z+2H: 60k−1 → n=2099 ،Δ%=+4.29 | 120k−1 → n=2039 ،Δ%=−4.40
W+4Z: 60k−1 → n=1859 ،Δ%=−1.58 | 120k−1 → n=1919 ،Δ%=+8.26
4W+2H: 60k−1 → n=2039 ،Δ%=+1.02 | 120k−1 → n=2039 ،Δ%=+1.02
5W+H: 60k−1 → n=1979 ،Δ%=+0.24 | 120k−1 → n=1919 ،Δ%=−8.60

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25.Cosmology and multiverse

In Ramin theory all elementary particles and forces, matter, Energy, Quantom, relativity and gravity are explained and formulated for everything (from the smallest particles to the largest black holes) siply and without singulariy.

For example primary galaxies are collapsing in ramionics lattice to very far layersuntil one of super strong layers can stop it. This explains why most of galaxies have a black hole with mass near to starts mass.

Ramionics presents these equations needed in cosmology

This theory models matter, dark matter, and waves by altering the arrangement of Ramions, and therefore only the energy of space must be taken into account in calculations of the age and dimensions of the Universe.

Studies based on this theory open many avenues concerning the expansion of the Universe, the Big Bang, and cosmology, in addition to relativity, quantum theory, and elementary particles.

In Ramion Theory all of universe is filled by Ramion, Ramion and space energy density is same even close to matter, so **maybe** we have to consider Dark energy (= Space energy density) share as 100% in calculation on Hubble constant H0, means 14.46×10^9 year Universe age and 14.46×10^9 LY observable radius.

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